AMENDMENTS TO THE CLAIMS:

Please amend claims 1, 3-10, 12-18, 26-34, 41 and 42. Please add new claims 43-51. Following is a complete listing of the claims pending in the application, as amended:

1. (Currently Amended) A method of effectuating a neural-function in a patient, comprising:

selecting a stimulation site at the cortex of the patient where a change in an intrinsic, patient-specific neural-activity is suspected of occurring to carry out a particular physical function and/or cognitive function of the patient;

positioning an electrode at the selected stimulation site; and

applying an electrical ~~potential~~ signal to the stimulation site via the electrode.

2. (Original) The method of claim 1 wherein:

the method further comprises providing a first listing containing a plurality of physical functions and/or cognitive functions and a second listing containing a plurality of neural-sites in the cortex where neural-activity is suspected to change to carry out a particular one of the physical functions and/or cognitive functions; and

selecting a stimulation site comprises identifying a physical function and/or cognitive function in the first listing that is correlated to an altered function of the patient, and determining a corresponding neural-site in the cortex of the patient in the second listing.

3. (Withdrawn-Currently Amended) The method of claim 1 wherein selecting the stimulation site comprises choosing a stimulation site adjacent to an affected ~~damaged~~ region of the cortex where neural-activity for carrying out an impaired function of the patient was performed before the patient experienced neurologic damage~~damaged occurred to the cortex~~.

4. (Currently Amended) The method of claim 1 wherein, in a case in which the patient has experienced a stroke ~~at~~ involving the primary motor cortex in the frontal lobe, the procedure of selecting a stimulation site comprises choosing a stimulation site at the premotor cortex anterior to the stroke in the frontal lobe and the procedure of positioning an electrode comprises placing an electrode ~~at~~ in signal communication with the premotor cortex anterior to the stroke in the frontal lobe.

5. (Withdrawn-Currently Amended) The method of claim 1 wherein, in a case in which the patient has experienced a stroke ~~in~~ affecting the frontal lobe, the procedure of selecting a stimulation site comprises choosing a stimulation site at the supplementary motor cortex anterior to the stroke in the frontal lobe and the procedure of positioning an electrode comprises placing an electrode ~~at~~ in signal communication with the supplementary motor cortex anterior to the stroke in the frontal lobe.

6. (Withdrawn-Currently Amended) The method of claim 1 wherein, in a case in which the patient has expressive language disorders, the selecting procedure comprises choosing a stimulation site at Broca's area of the inferior frontal lobe of the cortex and the positioning procedure comprises placing an electrode ~~at~~ in signal communication with Broca's area of the inferior frontal lobe of the cortex.

7. (Withdrawn-Currently Amended) The method of claim 1 wherein, in a case in which the patient has language comprehension disorders, the selecting procedure comprises choosing a stimulation site at Wernicke's area of the parietal lobe of the cortex and the positioning procedure comprises placing an electrode ~~at~~ in signal communication with Wernicke's area of the parietal lobe.

8. (Withdrawn-Currently Amended) The method of claim 1 wherein, in a case in which the patient has learning and memory disorders, the selecting procedure comprises choosing the stimulation site at a medial temporal lobe of the cortex and the

positioning procedure comprises placing the electrode ~~at~~ in signal communication with the medial temporal lobe of the cortex.

9. (Withdrawn-Currently Amended) The method of claim 1 wherein, in a case in which the patient has mood disorders, the selecting procedure comprises choosing the stimulation site ~~at~~ to be in signal communication with a limbic system component and the positioning procedure comprises placing an electrode ~~at~~ to be in signal communication with the limbic system component.

10. (Currently Amended) A method of effectuating a neural-function in a patient, comprising:

selecting a stimulation site at the cortex of the patient where a change in an intrinsic, patient-specific neural-activity is expected to occur to carry out a particular physical function and/or cognitive function of the patient that has been altered;

positioning an electrode at the stimulation site; and

applying an electrical ~~potential~~ signal to the stimulation site via the electrode.

11. (Original) The method of claim 10 wherein:

the method further comprises providing a first listing containing a plurality of physical functions and/or cognitive functions and a second listing containing a plurality of neural-sites in the cortex where neural-activity is suspected to change to carry out a particular one of the physical functions and/or cognitive functions; and

selecting a stimulation site comprises identifying a physical function and/or cognitive function in the first listing correlated to the altered function and determining a corresponding neural-site in the cortex of the patient in the second listing.

12. (Withdrawn-Currently Amended) The method of claim 10 wherein selecting the stimulation site comprises choosing a stimulation site adjacent to ~~a damaged~~ an affected region of the cortex where neural-activity for carrying out the altered function was performed before the patient experienced neurologic damage~~damaged occurred to the cortex~~.

13. (Currently Amended) The method of claim 10 wherein, in a case in which the patient has experienced a stroke ~~at~~ affecting the primary motor cortex in the frontal lobe, the procedure of selecting a stimulation site comprises choosing a stimulation site at the premotor cortex anterior to the stroke in the frontal lobe and the procedure of positioning an electrode comprises placing an electrode ~~at~~ in signal communication with the premotor cortex anterior to the stroke in the frontal lobe.

14. (Withdrawn-Currently Amended) The method of claim 10 wherein, in a case in which the patient has experienced a stroke ~~in~~ affecting the frontal lobe, the procedure of selecting a stimulation site comprises choosing a stimulation site at the supplementary motor cortex anterior to the stroke in the frontal lobe and the procedure of positioning an electrode comprises placing an electrode ~~at~~ in signal communication with the supplementary motor cortex anterior to the stroke in the frontal lobe.

15. (Withdrawn-Currently Amended) The method of claim 10 wherein, in a case in which the patient has expressive language disorders, the selecting procedure comprises choosing a stimulation site at Broca's area of the inferior frontal lobe of the cortex and the positioning procedure comprises placing an electrode ~~at~~ in signal communication with Broca's area of the inferior frontal lobe of the cortex.

16. (Withdrawn-Currently Amended) The method of claim 10 wherein, in a case in which the patient has language comprehension disorders, the selecting procedure comprises choosing a stimulation site at Wernicke's area of the parietal lobe

of the cortex and the positioning procedure comprises placing an electrode ~~at~~ in signal communication with Wernicke's area of the parietal lobe.

17. (Withdrawn-Currently Amended) The method of claim 10 wherein, in a case in which the patient has learning and memory disorders, the selecting procedure comprises choosing the stimulation site at a medial temporal lobe of the cortex and the positioning procedure comprises placing the electrode ~~at~~ in signal communication with the medial temporal lobe of the cortex.

18. (Withdrawn-Currently Amended) The method of claim 10 wherein, in a case in which the patient has mood disorders, the selecting procedure comprises choosing the stimulation site to be in signal communication with at a limbic system component and the position procedure comprises placing an electrode ~~at~~ to be in signal communication with the limbic system component.

19-25. (Cancelled)

26. (Withdrawn-Currently Amended) In a patient that has an impaired physical function and/or cognitive function, a method of effectuating a neural-function for carrying out the impaired function comprising:

selecting a stimulation site at the cortex of the patient where a change in an intrinsic, patient-specific neural-activity is suspected of occurring to carry out the impaired function;

positioning an electrode at the stimulation site; and

applying an electrical ~~potential~~ signal to the stimulation site via the electrode.

27. (Withdrawn-Currently Amended) In a patient that has an impaired physical function and/or cognitive function, a method of effectuating a neural-function for carrying out the impaired function comprising:

selecting a stimulation site adjacent to ~~a damaged~~ an affected region of the cortex where neural-activity for carrying out the impaired function was performed before becoming impaired;

positioning an electrode at the stimulation site; and

applying an electrical ~~potential~~ signal to the stimulation site via the electrode.

28. (Withdrawn-Currently Amended) In a patient that has experienced a stroke ~~at~~ affecting the primary motor cortex in the frontal lobe, a method of effectuating a neural-function comprising:

positioning an electrode in the patient at the premotor cortex anterior to the stroke in the frontal lobe; and

applying an electrical ~~potential~~ signal to the premotor cortex via the electrode.

29. (Withdrawn-Currently Amended) In a patient that has experienced a stroke ~~at~~ affecting the primary motor cortex in the frontal lobe, a method of effectuating a neural-function comprising:

positioning an electrode in the patient at the supplementary motor cortex anterior to the stroke in the frontal lobe; and

applying an electrical ~~potential~~ signal to the supplementary motor cortex via the electrode.

30. (Withdrawn-Currently Amended) In a patient that has expressive language disorders, a method of effectuating a neural-function comprising:

positioning an electrode in the patient at Broca's area of the inferior frontal lobe of the cortex of the patient; and

applying an electrical ~~potential~~ signal to Broca's area of the inferior frontal lobe via the electrode.

31. (Withdrawn-Currently Amended) In a patient that has language comprehension disorders, a method of effectuating a neural-function comprising:

positioning an electrode in the patient at Wernicke's area of the parietal lobe of the cortex of the patient; and

applying an electrical ~~potential~~ signal to ~~the~~ Wernicke's area of the parietal lobe via the electrode.

32. (Withdrawn-Currently Amended) In a patient that has learning and memory disorders, a method of effectuating a neural-function comprising:

positioning an electrode in the patient at a medial temporal lobe of the cortex of the patient; and

applying an electrical ~~potential~~ signal to the medial temporal lobe via the electrode.

33. (Withdrawn-Currently Amended) In a patient that has mood disorders, a method of effectuating a neural-function comprising:

positioning an electrode in the patient ~~at~~ and in signal communication with a limbic system component of the patient; and

applying an electrical ~~potential~~ signal to the limbic system component via the electrode.

34. (Withdrawn-Currently Amended) A method of effectuating a neural-function in a patient, comprising:

selecting a stimulation site comprising a region of the cortex of the patient where a change in an intrinsic, patient-specific neural-activity is expected to occur to carryout a function of the patient;

applying an electrical stimulation directly to the stimulation site using an electrode implanted in the patient at a location proximate to the cortex of the patient.

35. (Withdrawn) The method of claim 34 wherein the function of the patient is a sense of smell, and wherein the stimulation site comprises a sensory region of the cortex related to the sense of smell.

36. (Withdrawn) The method of claim 34 wherein the function of the patient is associated with effectuating a sense of touch, and wherein the stimulation site comprises a sensory region of the cortex related to touch.

37. (Withdrawn) The method of claim 34 wherein the function of the patient is movement of a body part, and wherein the stimulation site comprises a motor region of the cortex related to movement of the body part.

38. (Withdrawn) The method of claim 34 wherein the function of the patient is cognitive processing, and wherein the stimulation site comprises a region of the cortex related to the cognitive processing.

39. (Withdrawn) The method of claim 34 wherein the function of the patient is memory, and wherein the stimulation site comprises a region of the cortex related to memory.

40. (Withdrawn) The method of claim 34 wherein the function of the patient has been impaired by damage to the cortex, and wherein selecting the stimulation site comprises choosing a stimulation site adjacent to the damaged region of the cortex where neural-activity for carrying out impaired function occurred before damage occurred to the cortex.

41. (Withdrawn-Currently Amended) The method of claim 34 wherein the function of the patient has been impaired by a stroke ~~in~~ affecting the frontal lobe of the premotor cortex in the brain of the patient, and wherein selecting a stimulation site

comprises choosing a stimulation site at the premotor cortex anterior to the stroke in the frontal lobe.

42. (Withdrawn-Currently Amended) The method of claim 34 wherein the function of the patient has been impaired by a stroke ~~in~~ affecting the frontal lobe of the premotor cortex in the brain of the patient, and wherein selecting a stimulation site comprises choosing a stimulation site at the supplementary motor cortex anterior to the stroke in the frontal lobe of the premotor cortex.

43. (New) The method of claim 1, wherein the electrical signal is applied at a level below a level at which the neural-function is consistently triggered in response to the electrical signal itself.

44. (New) The method of claim 1, wherein the intrinsic neural activity arises in association with a naturally occurring physiological process that facilitates at least partial functional recovery following neurologic damage.

45. (New) The method of claim 1, further comprising directing the patient to perform an activity expected to trigger the neural function.

46. (New) The method of claim 45, wherein directing the patient to perform an activity occurs in association with selecting a stimulation site.

47. (New) The method of claim 45 wherein directing the patient to perform an activity comprises directing the patient to perform a behavioral therapy in association with applying the electrical signal to the stimulation site.

48. (New) The method of claim 45, wherein directing the patient to perform an activity comprises directing the patient to perform a behavioral therapy substantially coincident with applying the electrical signal to the stimulation site.

49. (New) The method of claim 28, wherein the electrical signal is applied at a level below a level at which the neural-function is consistently triggered in response to the electrical signal itself.

50. (New) The method of claim 28, further comprising directing the patient to perform a behavioral therapy in association with applying the electrical signal to the stimulation site.

51. (New) The method of claim 28, further comprising directing the patient to perform a behavioral therapy substantially coincident with applying the electrical signal to the stimulation site.